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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,727	04/26/2001	Evan Chicklis	D-4465	6318

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EXAMINER	
MONBLEAU, DAVIENNE N	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Applicati n No.	Applicant(s)	
	09/841,727	CHICKLIS ET AL.	
	Examiner	Art Unit	
	Davienne Monbleau	2878	MW

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *4,7-17 and 19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,18 and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

The amendment filed on 9/11/03 has been entered. Claims 1-3, 5, 6 and 18 have been amended. Claims 4, 7-17 and 19 have been withdrawn from consideration but have not been canceled. New claims 20-23 have been added. Claims 1-23 are pending.

Drawings

The proposed drawing corrections filed on 9/11/03 have been approved. Applicant needs to submit replacement drawing sheets in accordance with the required format, which will include changes such as the "Prior Art" labels and adjusted Figure number to compensate for deleted figures.

Specification

The proposed specification amendment to correspond with the drawing correction has been approved. Applicant needs to submit the changes to the specification in accordance with the required amendment format.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stultz et al. (US 6,246,711).

Regarding Claim 18, Stultz et al. teach in column 2 lines 14-16 a resonant pumped erbium laser and further teaches in column 2 lines 62-63 an erbium concentration of 0.5%, which is about 1.0%. Furthermore, Stultz et al. teach in column 4 lines 35-40 that various changes and modifications of an obvious nature may be made and will be readily apparent to those skilled in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the erbium concentration in Stultz et al. to alter the output characteristics of the laser light and still be within the scope of the invention.

Regarding Claim 20, Stultz et al. does not teach specifically that said erbium laser may be used to pump another laser. However, Stultz et al. does teach that lasers, such as laser diodes, may be used to pump other types of lasers. Therefore, it would have been obvious to one of skill in the art at the time of the invention to use the output light from the erbium laser to pump a separate laser source. Determining which pump source to use for a particular laser involves routine skill in the art and is dependent upon efficiency, output power, and the desired wavelength.

Regarding Claim 22, Stultz et al. teach in column 1 lines 41-44 that the laser has a wavelength of about 1.5 microns and in column 3 line 2 a diode pump power of 25 W, which is

about 30 W. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a higher pump power in Stultz et al. in order to achieve a higher output energy. Determining the actual pump power required and the duration of the pumping involves routine skill in the art.

Regarding Claim 23, Stultz et al. teach in column 1 lines 41-44 that the laser has a wavelength of about 1.5 microns.

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokubu (US 6,179,830) in view of Stultz et al. (US 6,246,711).

Regarding Claim 1, Kokubu teaches in Figure 1A a laser light source (13) having a storage lifetime of at least 4 ms (column 10 line 19) and an energy/pulse between 250 mJ and 300 mJ (column 10 lines 24-25). Kokubu further teaches in column 11 that said laser (13) may be an resonant erbium laser and in column 10 lines 26-32 that said laser may be Q-switched to achieve a desired pulsewidth (storage lifetime). Kokubu does not teach diode pumping. Stultz et al. teach in the abstract a diode-pumped cavity for an erbium laser. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a diode pump in Kokubu, as taught by Stultz et al., because it is well known in the art that in order for a laser to output light, it has to be pumped with energy. Any suitable pumping means to achieve the desired output power and wavelength may be used.

Regarding Claim 2, Kokubu teaches in column 10 line 19 that the storage lifetime is approximately 10 ms and further teaches in column 11 lines 53-55 that the output wavelength is about 1.5 microns. Kokubu does not teach the concentration of erbium. Stultz et al. teach in column 2 lines 62-63 an erbium concentration of 0.5%, which is about 1%. Furthermore, Stultz

et al. teach in column 4 lines 35-40 that various changes and modifications of an obvious nature may be made and will be readily apparent to those skilled in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to alter the erbium concentration in Kokubu, as suggested by Stultz et al., to alter the output characteristics of the laser light and still be within the scope of the invention.

Regarding Claim 3, Kokubu teaches in 11 lines 53-55 a crystalline host (glass) for the erbium.

Regarding Claim 5, Kokubu teaches in column 11 lines 53-55 that the output wavelength is about 1.5 microns.

Regarding Claim 6, Kokubu teaches in column 11 lines 53-55 that the output wavelength is about 1.5 microns. Kokubu does not teach a pumping power. Stultz et al. teach in column 3 line 2 a diode pump power of 25 W, which is about 30 W. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a higher pump power in Stultz et al. in order to achieve the high energy output that is taught in Kokubu. Determining the actual pump power required and the duration of the pumping involves routine skill in the art.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stultz et al. (US 6,246,711) in view of Kokubu (US 6,179,830). Stultz et al. does not teach an energy/pulse between 250 mJ and 300 mJ. Kokubu teaches in Figure 1A a laser light source (13) having an energy/pulse between 250 mJ and 300 mJ (column 10 lines 24-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a high output energy in Stultz et al. as taught by Kokubu, for advanced medical applications (see Kokubu columns 1-2).

Response to Arguments

Applicant's arguments with respect to claims 1-3, 5, 6, and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5,200,966; US 5,652,756; and US 5,022,040.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 703-306-5803. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Dominique Marbleau

DNM

DAVID PORTA
SUPERVISORY PATENT EXAMINER
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